

ABSTRACT

A new type of propeller with a transverse driving shaft can be mounted on an outboard internal combustion engine instead of a conventional screw type propeller or disposed directly on the transom of a boat. The propulsion thrust is generated by flat propeller blades mounted on planetary gearboxes and rotated simultaneously around two perpendicular intercrossed axes of rotation. Such double rotation causes the blades to move along the specific curved paths and to generate virtually permanent and effective propulsion thrust for propelling watercraft. Both sides of the propeller blades are used as working surfaces. Unlike the conventional screw type propeller, a new propeller can be disposed not only under the water but also over the water with the blades extending into the water during their rotations for propelling the boat. Such propulsion apparatus can be specifically useful for propelling different types of watercraft in shallow water and other situations when a conventional screw propeller can be easily damaged. The propeller can be rotated not only by an internal combustion engine but also by a electric power any other type of drive.